

Amendment to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (withdrawn): A method of applying a drug-polymer coating on a stent, comprising:

dipping a stent framework into a first polymeric solution, wherein the first polymeric solution comprises a first polymer, a first therapeutic agent, and a first solvent;

forming a thin drug-polymer layer on the stent framework, wherein the first polymeric solution is dried and wherein the first polymer is cured; and

repeating the steps of dipping the stent framework into the first polymeric solution and forming the thin drug-polymer layer until a target thickness of the drug-polymer coating with the thin drug-polymer layers is disposed on the stent framework.

Claim 2 (withdrawn): The method of claim 1 wherein the first polymeric solution comprises a first polymer including a low molecular weight silicone oil, a cross-linking agent, and a catalyst.

Claim 3 (withdrawn): The method of claim 2 wherein the cross-linking agent comprises tetrapropylorthosilicate.

Claim 4 (withdrawn): The method of claim 2 wherein the catalyst comprises stannous octoate.

Claim 5 (withdrawn): The method of claim 1 wherein the first polymeric solution comprises a first monomer including poly acrylic acid, a second monomer including vinyl pyrrolidone, and an initiator.

Claim 6 (withdrawn): The method of claim 5 wherein the initiator comprises benzophenone.

Claim 7 (withdrawn): The method of claim 1 wherein the first polymeric solution comprises between 0.05 percent and 3.0 percent total solids by weight of the first polymer.

Claim 8 (withdrawn): The method of claim 1 wherein the first therapeutic agent is selected from the group consisting of rapamycin, a rapamycin derivative, a rapamycin analogue, camptothecin, dexamethasone, 5-fluorouracil, a bioactive agent, a pharmaceutical drug, a therapeutic substance, and a combination thereof.

Claim 9 (withdrawn): The method of claim 1 wherein forming the thin drug-polymer layer comprises drying the first polymeric solution and curing the first polymer with ultraviolet light.

Claim 10 (withdrawn): The method of claim 1 wherein forming the thin drug-polymer layer comprises drying the first polymeric solution and curing the first polymer with one of thermal activation, electrical activation, or ionizing irradiation.

Claim 11 (withdrawn): The method of claim 1 further comprising:
adding an ultraviolet-sensitive catalyst into the first polymeric solution prior to dipping the stent framework into the first polymeric solution.

Claim 12 (withdrawn): The method of claim 1 further comprising:
adding one of an initiator or a crosslinking agent into the first polymeric solution prior to dipping the stent framework into the first polymeric solution.

Claim 13 (withdrawn): The method of claim 1 further comprising:
dipping the stent framework including the formed thin drug-polymer layer into a second polymeric solution, wherein the second polymeric solution comprises a second polymer and a second solvent;

forming a thin barrier layer on the formed thin drug-polymer layer, wherein the second polymeric solution is dried and wherein the second polymer is cured; and

repeating the steps of dipping the stent framework into the first polymeric solution and forming an additional thin drug-polymer layer, and dipping the stent framework including the additional thin drug-polymer layer and forming the thin barrier on the thin drug polymer layer, until a target thickness of the drug-polymer coating with the thin drug-polymer layers and the thin barrier layers is disposed on the stent framework.

Claim 14 (withdrawn): The method of claim 13 wherein the second polymeric solution comprises a second therapeutic agent.

Claim 15 (withdrawn): The method of claim 14 wherein the second therapeutic agent is selected from the group consisting of rapamycin, a rapamycin derivative, a rapamycin analogue, camptothecin, dexamethasone, 5-fluorouracil, a bioactive agent, a pharmaceutical drug, a therapeutic substance, and a combination thereof.

Claim 16 (withdrawn): The method of claim 1 further comprising:
modulating a concentration of the first therapeutic agent in the thin drug-polymer layers to provide a predetermined drug-release profile.

Claim 17 (previously presented): A drug-polymer coated stent, comprising:
a stent framework;
a laminated drug-polymer coating disposed on the stent framework, the laminated drug-polymer coating including a plurality of thin drug-polymer layers, wherein the thin drug-polymer layers include a first therapeutic agent and a cured first polymer, and
at least one thin barrier layer positioned between one or more thin drug-polymer layers, wherein the at least one thin barrier layer includes a cured second polymer.

Claim 18 (original): The stent of claim 17 wherein the stent framework comprises one of a metallic base or a polymeric base.

Claim 19 (original): The stent of claim 17 wherein the stent framework comprises a material selected from the group consisting of stainless steel, nitinol, tantalum, MP35N alloy, platinum, titanium, a chromium-based alloy, a suitable biocompatible alloy, a suitable biocompatible material, a biocompatible polymer, and a combination thereof.

Claim 20 (original): The stent of claim 17 wherein the first therapeutic agent is selected from the group consisting of rapamycin, a rapamycin derivative, a rapamycin analogue, camptothecin, dexamethasone, 5-fluorouracil, a bioactive agent, a pharmaceutical drug, a therapeutic substance, and a combination thereof.

Claim 21 (original): The stent of claim 17, wherein a concentration of the first therapeutic agent is modulated to provide a predetermined drug-release profile.

Claims 22-24 (cancelled):

Claim 25 (previously presented): A system for treating a vascular condition, comprising:

a catheter; and

a coated stent coupled to the catheter, the coated stent including a stent framework and a laminated drug-polymer coating disposed on the stent framework, the laminated drug-polymer coating including a plurality of thin drug-polymer layers and at least one thin barrier layer positioned between one or more thin drug-polymer layers,

wherein the thin drug-polymer layers include a first therapeutic agent and a cured first polymer and wherein the thin barrier layer includes a cured second polymer.

Claim 26 (original): The system of claim 25 wherein the catheter includes a balloon to expand the stent.

Claim 27 (original): The system of claim 25, wherein the catheter includes a sheath that retracts to allow expansion of the stent.

Claim 28 (original): The system of claim 25 wherein the stent framework comprises one of a metallic base or a polymeric base.

Claim 29 (original): The system of claim 25 wherein the stent framework comprises a material selected from the group consisting of stainless steel, nitinol, tantalum, MP35N alloy, platinum, titanium, a chromium-based alloy, a suitable biocompatible alloy, a suitable biocompatible material, a biocompatible polymer, and a combination thereof.

Claim 30 (original): The system of claim 25 wherein the first therapeutic agent is selected from the group consisting of rapamycin, a rapamycin derivative, a rapamycin analogue, camptothecin, dexamethasone, 5-fluorouracil, a bioactive agent, a pharmaceutical drug, a therapeutic substance, and a combination thereof.

Claim 31 (original): The system of claim 25 wherein a concentration of the first therapeutic agent is modulated to provide a predetermined drug-release profile.

Claims 32-34 (cancelled):

Claim 35 (previously presented): A method of treating a vascular condition, comprising:

inserting a drug-polymer coated stent within a vessel of a body, the drug-polymer coated stent including a laminated drug-polymer coating having a plurality of thin drug-polymer layers and at least one thin barrier layer positioned between one or more thin drug-polymer layers, wherein the thin drug-polymer layers include a first therapeutic agent and a cured first polymer and wherein the thin barrier layer includes a cured second polymer; and

eluting at least one therapeutic agent from the laminated drug-polymer coating into the body,

wherein the first polymer is cured with one of thermal activation, electrical activation, or ionizing irradiation.

Claim 36 (cancelled)

Claim 37 (previously presented): The method of claim 35 wherein the thin barrier layers control an elution rate of at least one therapeutic agent.

Claim 38 (previously presented): The method of claim 35 further comprising: selecting the cured first polymer and the cured second polymer based on a predetermined elution rate of at least one therapeutic agent.

Claim 39 (cancelled)

Claim 40 (previously presented): The stent of claim 17 wherein the at least one thin barrier layer comprises a diffusion barrier.

Claim 41 (previously presented): The stent of claim 17 wherein the cured second polymer comprises a silicone polymer.

Claim 42 (previously presented): The stent of claim 17 wherein the cured second polymer comprises an amphiphilic copolymer from acrylic acid and vinyl pyrrolidone.

Claim 43 (previously presented): The stent of claim 17 further comprising a primer coat disposed directly on an outer surface of the stent framework.

Claim 44 (previously presented): The system of claim 25 wherein the at least one thin barrier layer comprises a diffusion barrier.

Claim 45 (previously presented): The system of claim 25 wherein the cured second polymer comprises a silicone polymer.

Claim 46 (previously presented): The system of claim 25 wherein the cured second polymer comprises an amphiphilic copolymer from acrylic acid and vinyl pyrrolidone.

Claim 47 (previously presented): The method of claim 35 wherein the at least one thin barrier layer comprises a diffusion barrier.